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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/705,553

11/11/2003

Yasushi Maruyama

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7590

12/20/2005

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EXAMINER

COLEMAN, WILLIAM D

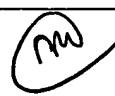
ART UNIT

PAPER NUMBER

2823

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,553	Applicant(s) MARUYAMA, YASUSHI 	
	Examiner W. David Coleman	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group II invention, claims 10-21 in the reply filed on July 11, 2005 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

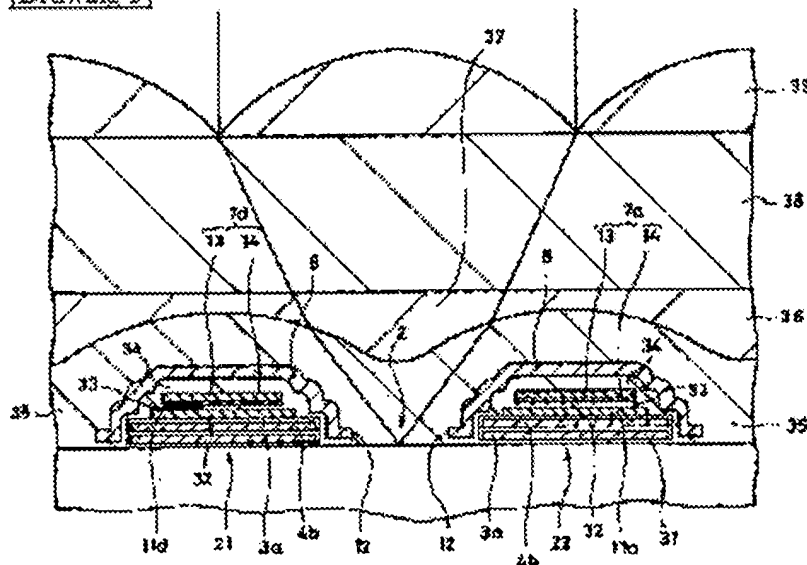
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruyama et al., Japanese Patent Abstracts Publication No. 2001-135811.

Maruyama discloses a semiconductor process as claimed. See drawings 1-6 where Maruyama teaches the following limitations.

[Drawing 3]



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4. Pertaining to claim 10, Maruyama teaches a method of fabricating a solid state image pickup device, comprising the steps of:

providing an insulating film **34** covering a conductive pattern **11d** formed above a substrate **22** with a contact window **6d** reaching said conductive pattern,

covering the bottom surface of said contact window with a thin film comprised of at least one of silicon oxide and silicon nitride **14**,

forming a metallic pattern above said insulating film and in said contact window, and

performing a heat treatment to cause said thin film and said metallic pattern to react with each other [see paragraph 0046].

5. Pertaining to claim 11, Maruyama teaches a method of fabricating a solid state image pickup device, comprising the steps of:

providing an insulating film formed above a substrate with a contact window reaching said substrate,

covering the bottom surface of said contact window with a thin film comprised of at least one of silicon oxide and silicon nitride,

forming a metallic pattern above said insulating film and in said contact window, and

performing a heat treatment to cause said thin film and said metallic pattern to react with each other (see the rejection of claim 10 above).

6. Pertaining to claim 12, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 10, wherein said substrate is comprised of silicon, and

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said metallic pattern is formed as a shunt wiring for impressing a voltage on said conductive pattern [see paragraph 0014-0015].

7. Pertaining to claim 13, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 11, wherein said substrate is comprised of silicon, and said metallic pattern is formed as a light shielding film **13**.

8. Pertaining to claim 14, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 10, wherein the interfacial level of said substrate is lowered in the step of performing said heat treatment (the Examiner takes the position that it is well known to drive the dopants for the photodiodes below the claimed temperature of 800-900 degrees Celsius).

9. Pertaining to claim 15, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 11, wherein the interfacial level of said substrate is lowered in the step of performing said heat treatment (the Examiner takes the position as this claim to mean reflowing the BPSG to form what is termed "crevices").

10. Pertaining to claim 16, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 10, wherein a step of forming a fluid insulating film in the state of covering said metallic pattern is conducted after said metallic pattern is formed, and

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reflow of said fluid insulating film is effected to bring said fluid insulating film into a lens shape in the step of performing said heat treatment (please see the rejection of claim 15).

11. Pertaining to claim 17, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 11, wherein
a step of forming a fluid insulating film in the state of covering said metallic pattern is conducted after said metallic pattern is formed, and
reflow of said fluid insulating film is effected to bring said fluid insulating film into a lens shape in the step of performing said heat treatment (please see the rejection of claim 15 above).

12. Pertaining to claim 18, Maruyama teaches the method of fabricating a solid image pickup device as set forth in claim 10, wherein said thin film 2 is so formed as to cover the inside wall of said contact window in the step of forming said thin film.

13. Pertaining to claim 19, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 11, wherein said thin film 2 is so formed as to cover the inside wall of said contact window in the step of forming said thin film.

14. Pertaining to claim 20, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 10, wherein said metallic pattern is formed by use of a high melting point metal (tungsten is considered a high melting point metal).

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15. Pertaining to claim 21, Maruyama teaches the method of fabricating a solid state image pickup device as set forth in claim 11, wherein said metallic pattern is formed by use of a high melting point metal (see the rejection of claim 20 above).

Drawings

16. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 571-272-1856. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:30 PM.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a series of loops and a final horizontal stroke.

W. David Coleman
Primary Examiner
Art Unit 2823

WDC